



# ICI MAGAZINE

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## CONTRIBUTORS

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**James McGuill** retired in 1962 after 35 years' Company service, all of it at Billingham. He was a processman on boiler plants from 1929 onwards and was for some years a T. & G.W.U. shop steward, and a works councillor.

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**Rex Roberts**, who is retiring from the Company at the end of the year, has been education officer for ICI Sales Regions since 1953. Before that he was for 20 years with Plant Protection Ltd.; becoming director in charge of advertising and public relations. As a governor of the Central School of Arts and Crafts and as chairman of the Gardeners' Royal Benevolent Society he finds an outlet for his comprehensive interests.

**James Taylor**, the ICI Group Director in charge of the Company's metal interests, has often contributed to the *Magazine*.

**Front cover:** Testing records at the EMI factory, Hayes. (Photo: Brian Price-Thomas)

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## With the Editor's compliments

The Editor begs leave to wish readers of the *Magazine* the compliments of the season. As to precisely what those compliments ought to be in the day and age in which we find ourselves he confesses to being in some doubt. In former times, if his recollection is to be trusted, they instanced a Merry Christmas and a Happy New Year. The significance of the distinction, though clearly reasoned, always escaped him. If consulted, he would have preferred it the other way round. But on Christmas today, over which, as over so much else of our national heritage, there still broods the genius of Charles Dickens, it is more difficult to gauge contemporary sentiment. Most people would appear to agree that present-day Christmases are deplorably commercialised and would be intolerable but for the sake of the children. But if these conclusions are currently drawn so they were of Christmases long past. Writing for a Christmas periodical in 1893, a well-known woman writer of the day observed: "The talk was of Christmas; and almost everybody agreed that the season, considered from the old-fashioned standpoint, was pure irony. Was it not a time of extra burdens, of manifold claims upon everybody's purse and care, of great expectations from all sorts of people, of worry and weariness? Except for the children! There we were unanimous, Christmas was the children's festival—for us a rush and scramble, and a perpetual paying away of money; for them a glimpse of Fairyland." The novelist in question develops the fancy that those for whom Christmas could not be graced by the presence of either children or grandchildren should hire them for the occasion, but not, as one of the characters in her story goes on to suggest, from an Institution—because children from such a source might prove more of a liability than a luxury.

As to those selfsame children of an Institution, there comes down to us a haunting little portrait from the pen of the great American novelist, Henry James. Writing of the festive season, as seen from the vantage point of a large English country house in 1879, he had this to say: "A lady had made a

present of a Christmas Tree to the children of a workhouse, and she invited me to go with her and assist at the distribution of the toys. There was a drive through the early dusk of a very cold Christmas eve, followed by the drawing up of a lamp-lit brougham in the snowy quadrangle of a grim-looking charitable institution. . . . We passed through cold, bleak passages . . . and then . . . we were ushered into a large frigid refectory, chiefly illumined by the twinkling tapers of the Christmas tree. Here entered to us some hundred and fifty little children of charity, who had been making a copious dinner and who brought with them an atmosphere of hunger memorably satisfied—together with other traces of the occasion upon their pinafores and their small red faces. . . . They filed up and received their little offerings, and then they compressed themselves into a tight infantine bunch and, lifting up their small hoarse voices, directed a melancholy hymn toward their benefactress. The scene was a picture I shall not forget, with its curious mixture of poetry and sordid prose—the dying wintry light in the big bare, stale room; the beautiful Lady Bountiful, standing in the twinkling glory of the Christmas tree, the little multitude of staring and wondering, yet perfectly expressionless, faces."

Thus Henry James and thus a Christmas in the heyday of the Victorian era. But James had some observations also upon another facet of English benevolence, particularly appropriate to the season of goodwill, which has survived unchanged into our own day. "There is," he wrote, "nothing more striking in England than the success with which an 'appeal' is always made. Whatever the season or whatever the cause, there always appears to be enough money and enough benevolence in the country to respond to it in sufficient measure—a remarkable fact when one remembers that there is never a moment of the year when the custom of 'appealing' intermits."

But enough! It is clearly time for Scrooge to make way for "Santa." "Over," as they say on the radio, "to the children."



# A is for AEROSOL *by Stephen Frankish*

One of those innovations which by imperceptible stages effect a transformation in our lives is the aerosol—the self-pressurised spray which began as an insecticide and is now of such variegated application that it has achieved the status of an industry on its own.

The aerosol industry! A little while ago—a bare ten years or less—and the

term would have seemed exaggerated to the point of absurdity. Not so today. A mere glance at the illustration of a representative selection of aerosols available on the British home market will convince the most sceptical that here is no mere manufacture of passing novelties, but something as material to the support of the modern way of life as, shall we say, the Telly.

For so recently developed an industry the aerosol is, too, commendably well organised. Already in Britain, USA, France, Germany, Spain, Finland and, more recently, Italy, national associations have been formed to help to harmonise the varied interests of those involved, from whatever angle, in the industry, and to resolve mutual problems. While on the

European level there exists a central body, the Federation of European Aerosol Associations (F.E.A.), to fulfil an analogous role for the Continent as a whole.

To these various associations can be referred such highly pertinent considerations as standards, sizes, and the inter-availability of essential fittings and parts such as valves, fillers and an infinity of

technical arrangements. These functions are of considerable importance in a highly competitive industry.

The international nature—or perhaps it would be more accurate to say the continental nature—of the European section of the industry was strikingly underlined last October when the British Aerosol Manufacturers Association had

the privilege of organising the Fourth Congress of the Federation at Brighton. This proved to be the largest congress yet held—the last one was at Lucerne in 1961—and also the most successful, with a long sequence of lectures, committee meetings, demonstrations and

Part of an 'Arcton' drum packaging shed



Aerosol packages set out for judging in the IC House cinema



184 'Arcton' propellants are shipped by rail direct to many parts of Europe









# PARAQUAT as a new agricultural tool

by Dr. W. R. Boon

Ever since primitive man, or more likely woman, turned from hunting and the collection of wild roots and berries to the cultivation of food crops an essential part of the operation has involved the disturbance of the soil. Probably the first implement was a stick, which later developed into a hoe, stages in cultivation techniques which can still be seen in certain underdeveloped parts of the world to this day. Later, with the domestication of draught animals this simple tool developed into the early plough, whose development reached its height in north-western Europe with the invention of the mouldboard plough in the second half of the eighteenth century. This implement, because of its scientifically designed shape, enabled the farmer to cut and turn a furrow completely over with the minimum expenditure of power for pulling it through the soil.

The mouldboard plough has proved of inestimable benefit where the soil conditions and climate are not too different from those of north-western Europe. Elsewhere its great defect of exposing a bare soil surface to erosion by wind and water has often been little short of disastrous. The sufferings of the people displayed so vividly in *The Grapes of Wrath*, by John Steinbeck, were almost certainly as much due to the mouldboard plough improperly used as to the villainies of the bankers.

An enormous amount of work by the Soil Conservation Service of the United States and elsewhere has gone into devising systems of cultivation which aim at avoiding the exposure of unprotected soil to the elements. A by-product of this work has been the demonstration that rain, falling on a surface protected by dead plant residues, penetrates the soil more readily than when it falls on bare earth. In the United Kingdom over the past twenty years or so there has been a great deal of careful research, particularly at Rothamsted Experimental Station, to determine the value of traditional cultivation practices such as ploughing and hoeing. It is now established beyond any

doubt that in nearly all cases the only advantages of these practices which can be demonstrated are attributable to the control of weeds.

The discovery of the bipyridylum herbicide, diquat, has been described by Dr. E. Holmes in the *Magazine* for January 1962. Paraquat is a substance closely related chemically to diquat, and like this substance it will kill all green plant tissue with which it comes into contact. Both products are rendered inactive immediately they touch the soil. Diquat is more effective than paraquat in killing out broadleaved plants, while paraquat is particularly effective in killing out grasses. These properties immediately fit them for use in a very wide range of traditional weed control operations, but, particularly be-



**Spraying market garden land at Fernhurst to kill weeds before planting winter lettuce. As paraquat is inactivated by the soil, lettuce can be planted the next day without risk or damage**

cause of their immediate inactivation in the soil, they appeared to offer the possibility of a great simplification of agricultural practices by eliminating, or at least greatly reducing, traditional cultivations.

The traditional operation of hoeing to control weeds in row crops, soft fruit and so on, can be eliminated by directed

spraying of diquat and paraquat with new machines which have been devised for the purpose. It has been found that not only can weeds be controlled with much less trouble and expense, but that the yield from the treated crops can be increased substantially by avoiding the destruction of the feeding roots of the crop plants: these increases have varied between 20% and 50% for such diverse crops as potatoes, strawberries and blackcurrants.

With the background of having shown that at least one traditional tillage operation could be dispensed with, attention was turned at Jealott's Hill, ICI's agricultural research station, to trying to establish new crops without ploughing. The earliest experiments done were

deliberately designed to attempt the impossible, leaving the merely difficult until later. Impossible, that is, by normal agricultural operations. There are in the United Kingdom many millions of acres of permanent grassland of such low productivity that they offer to animals grazing on them little more than exercise for the muscles of their legs and jaws. Much of this land cannot be improved by ploughing because it is too steep, too rocky, too



wet, or for other reasons. The first experiment of any size was done on the slopes of Aran, near Bala in North Wales. In the autumn of 1960 a quarter-acre of mountain pasture (ffrid) was sprayed with paraquat\* and left until the following April. The plot was then treated with lime and basic slag and harrowed, after which it was sown with a grass/clover mixture,

\* 'Gramoxone,' sold by Plant Protection Ltd., contains paraquat.

with the application of ICI No. 1 fertilizer. In August, one of two matched groups of six lambs was penned on the treated area, while the other group had access to the whole of the mountainside. During the next five weeks the lambs on the improved area gained 93 lb. in weight, while on the rest of the mountain the gain was only 10 lb.! This story, with variations, has been repeated many times in all sorts of conditions, the only major variation being the

**Wheat sown at Jealott's Hill Research Station direct into wheat stubble after 'Gramoxone' W treatment yielded as much as plots traditionally ploughed and sown**

amount of cultivation after spraying. Sometimes when the old grass mat is very thick it has been found necessary to break it up with a very shallow rotary cultivation, but never to the extent demanded by traditional methods. In addition to the use of paraquat on the



sites where normal cultivation is impossible, it can be used with advantage on sites where it would be possible. On a true economic basis—leaving aside such economic distortions as ploughing-up grants—the paraquat method is cheaper than the traditional method and enables a farmer to convert old grass to new grazing in as little as six weeks, against probably twelve by traditional methods.

Soil erosion is not commonly considered a problem in the United Kingdom, but early this summer it occurred on a

ploughed strip at the headquarters of Plant Protection Ltd. at Fernhurst following a very heavy thunderstorm. An adjacent strip treated with paraquat showed no trace of erosion.

Although grass is an extremely important crop, the arable crops are, on a world scale, still more important. Can paraquat be used to establish such crops without ploughing? The answer is “yes” for very many crops.

Work at Jealott's Hill has shown that a number of crops can be established

straight into old pasture or stubble, followingsprayingwithparaquat,byinserting the seed into a slot cut into the soil. In some experiments these two operations have been done simultaneously. One operation instead of anything up to eight or ten! This work is still at an early stage and will be expanded greatly next year, but already it is clear that in the short run at least yields as good as those obtained by the best farmers using all the traditional skills are attainable.

To use a much-hackneyed expression: Is it a break-through? Yes, it is. These chemicals, and the new ideas in agriculture which they have generated, might well have as big an impact on man's oldest industry as the introduction of the steam engine and, later, electric power, had on manufacturing industry.

**Pasture renewal without ploughing. The strip in the centre is new, productive pasture after the old rough grazing (as in the foreground) had been sprayed with 'Gramoxone' W and then resown. Below: The centre ploughed strip of land at Fernhurst shows severe soil erosion following a thunderstorm shortly after new grass was sown. The unploughed, 'Gramoxone'-treated strip on the left was not affected. On the right is a section of the old pasture**



# Ambassador or—?

by Rex Roberts

Years ago I worked for a small manufacturing company which we will call XY Ltd. Let X = one of the two families represented on the board and Y = the other. Mr. Y, the senior director, was then in his middle eighties and had latterly been confined by Mr. X, the forceful managing director, to some of the less exacting tasks of the business, such as the drawing and signing of the larger cheques. This Mr. Y did in an effortless copperplate hand which pleasantly recalled the tranquillity of the Victorian era. One other duty he reserved to himself. If someone on the staff was being transferred to new work, especially if this meant promotion, he was, so to speak, “ordained” by Mr. Y.

I had been office manager, and Mr. X wanted me to become sales manager in due course. He therefore decided, very rightly, that before I had charge of our travellers I ought to have been one myself. So I was allotted a territory and was to start work the following Monday. But first I was ushered into the presence of Mr. Y. With his customary urbanity he waved me to a chair and began a discursive review of the firm's history; it had been established in 1777. As he had not seen a customer for thirty years it was indeed understandable that he did not go into the details of my new work. When Mr. Y's chronicle had at last reached the twentieth century he concluded by remarking “And this, my dear boy, is the company you will be representing. You will be one of our Ambassadors.” I mumbled a few words, blending humility and pride, bowed and withdrew. Two hours later the managing director gave me a peremptory summons. “I have a pretty

good idea what Mr. Y said to you this morning” he said. “Well, you can take it from me that we have too many damn ambassadors already. Your job is to SELL.”

**‘...over 700  
representatives  
selling  
our products...’**

The truth, as ever, lies between these two extreme views. The young representative who, with all the graces that Eton and Christ Church have afforded him, thinks, taking Mr. Y's view, that he is in a branch of the diplomatic service, will not give much help in keeping our old friends “the wheels of production” turning. On the other hand, the ferret-faced go-getter who will stick at nothing to secure an order has also misconceived the object of the exercise. What is the object? So far as ICI is concerned I think this will become apparent as I narrate (and this is what the Editor has really asked me to do) the discussions and conclusions of the Panel which the Sales Controller appointed in March of this year to study the methods of training salesmen and recommend any desirable changes.

What were the basic facts of the selling situation that confronted the Panel?

We have, in the UK, over 700 representatives, selling our products to customers in every trade under the sun. The vast majority of these customers are industrial users, to whom our finished product is one of their raw materials. In addition, we sell paint, garden products, pharmaceuticals, etc., through retailers.

In a single working day £1,000,000 of ICI products are sold in the home market. To paraphrase Winston Churchill, “some business, some risk.” Almost all ICI products have to face keen competition. If our products fall below the standard which others achieve, if our salesmen are less well informed, less persuasive and less pertinacious than the salesmen of other companies, this huge turnover is, to that extent, in jeopardy.

It follows that our representatives need to have character, knowledge and skill. Take the first. I have been for the last ten years concerned with the training of our salesmen, and I am afraid that on courses I have thrown them more brickbats than bouquets. Now that I am about to retire it is a pleasure to say, having met a large number not only of our 700 representatives but of representatives of other firms, that I have no doubt that, judged by their personal qualities, there is no finer sales team in the country than ours. ICI representatives are men of integrity, men worth meeting—and are so regarded by their customers. It is on their reputation to a large extent that the general goodwill of British industry towards ICI has been built up.

What of their knowledge? Most have had a good background of general



education and of specialised training (e.g. in pharmacy or agricultural science) before they join us. The Divisions supplement this by courses which acquaint them with the technical merits of what we sell and the research that lies behind these products and others which are still "round the corner."

## **'The powers of persuasion'**

So much for our representatives' character and knowledge. What about their skill? All this knowledge has still to be translated into the particular benefits which ICI products can be expected to bring to the various industries we serve. We must look at the product from the point of view of the user.

Supposing you wanted to sell an armchair to three different people. To one you would emphasise the comfort it would give, to another you would say it was the most durable chair on the market, and to a third you would say "It's the latest design." No one person would be interested in all the chair's merits.

The powers of persuasion lie at the root of success in many professions as well as in business. The solicitor whom you ask whether you can "have the law" on your next door neighbour whose son has just sent his cricket ball through your greenhouse will, if he is worth employing, persuade you that winning your case won't in the long run be much help to you if you intend to go on living in the same house. Even a doctor who knows that you ought to have an operation may have to persuade you, who naturally don't welcome the prospect, that it is better to undergo the surgeon's knife than to remain in poor health. So the salesman as a persuader is in good company.

How can he learn to persuade more successfully?

First he must learn about his customers and their business. His predecessor in the

area he has taken over will have told him much about them. Later, when his sales manager accompanies him on a whole day's work and they discuss each call at the end of the day, the senior man's greater experience will often enable him to say, "Don't you think with Mr. Jones it might have been wiser to put it in such and such a way?"

The Sales Training Panel has recommended that for all new salesmen, before they start, there should be a one-week course explaining the kind of service that ICI wants to give to its customers and showing how the representatives' work fits into the whole selling effort of the Company.

Then, a year or so later, we shall call these men back in groups drawn from allied selling departments. The selling principles propounded on the first course will be reaffirmed, and then, with the help of sales managers, the methods of applying these principles in current market conditions will be discussed.

By the time this article is read the Sales Training Panel will have had the help of a team of sales managers in hammering out the details of Course I and Course II. By this means, early in 1964, we shall have a comprehensive scheme for the training of representatives in all aspects of their work. The Panel having in September, before completing its report, sent out a detailed questionnaire on training needs to all our 700 representatives, feels no doubt of *their* co-operation, for its plans have been framed in accordance with their replies.

## **'... a comprehensive scheme for the training of representatives ...'**

But the Panel fully realises that however well the syllabuses of courses may be drawn up they can never provide more than a part of the training the representative needs. It is the sales manager who has the prime responsibility for sales training

as a whole. With his many other responsibilities it is not easy for him to keep this always in mind. Yet increasingly ICI sales managers are recognising that if they want the sales figures for 1966 to exceed those of 1963 they must progressively raise the skills of their representatives.

## **'... he must rejoice in the diversity of men ...'**

All of us concerned with training have been helped to gain an insight into the salesmen's training needs in the course of giving to over 300 of them the admirable course devised by the Sales Analysis Institute of Chicago. This we were most happy to use pending the development of our own plans.

Now let me complete the title of this article, "Ambassador or — ?" I think the missing words, the true description of the successful representative, are "commercial psychologist." The representative must be a commercially minded man. Either he is born with a certain amount of business "savvy" or fifty training courses won't give it to him. He must develop a proper degree of self-confidence, skill in stating a case, and a refusal to be too easily discouraged. On the other hand, he must rejoice in the diversity of men, do his best to understand them as individuals and (in Lincoln's phrase) "so shape his good words" as to convince each of them. Unfortunately for him, he is a psychologist whose patients are not prepared to lie down during their treatment!

All representatives have a tough job. It lies within the power of every ICI man and woman, be they in research, production, distribution or any supporting activities, to help every representative to make his work more effective. If anyone is disinclined to do this from altruistic motives he should remember that it is the representatives who bring home the bacon for every one of us.





# Our Man in Rotterdam

*In matters of commerce the fault of the Dutch*

*Is offering too little and asking too much. The French are with equal advantage content,*

*So we clap on Dutch bottoms just 20 per cent.*

This was George Canning's waspish way of announcing to Britain's ambassador in The Hague that a whopping duty was to be levied on imports from Holland. Now, 137 years later, the boot is firmly on the other foot. As a member of the EEC, Holland will have to levy on imports from Britain and other 'outsiders' a tax of some 18%. For companies like ICI, which has enjoyed steadily increasing business in Holland since the war, this is a hard blow—all the more keenly felt because Britain's admission to the EEC was so recently being taken for granted.

The man who faces this situation on ICI's behalf is Pieter van der Hoeven—a tall, ascetic-looking Dutchman with a mild manner that conceals considerable commercial toughness and a highly developed instinct for survival. As he surveys his "territory" from ICI (Holland)'s impressive building on the Rotterdam waterfront, he can justly reflect that he has survived worse storms in the past.

The story of how van der Hoeven rescued ICI's business in Holland from what seemed certain liquidation has become almost a legend. The Dutch subsidiary—in 1934 called Kerlen & Co.—was in such low water that the 25 year-old van der Hoeven received instructions to wind it up. Instead, he came to London and offered to keep the ailing company alive by carrying the overheads

out of his own pocket. Apparently without much enthusiasm, ICI decided to give the company one more trial year. Working with two assistants from an attic in his house in The Hague, and actively helped throughout by his wife, van der Hoeven painstakingly put Kerlen & Co. on its feet, himself selling almost from door to door the products of those ICI Divisions having a foothold in the Continental market. Things began to look up. He engaged more staff. Then war came, and once more the business dwindled to a skeleton, held together by little more than van der Hoeven's determination to keep it alive until the Allied victory.

Today, at the head of a company with a turnover of £5½ million, he faces the latest threat, if not with equanimity, at least with the same determination. ICI (Holland) can offer Dutch industry and agriculture many products that are cheaper—tariffs notwithstanding—than those made inside the Common Market, and many others that simply cannot be bought elsewhere. 'Procion' fibre-reactive dyes are firmly established in the important textile industry. Plant Protection's exclusive 'Preglone' pre-emergence weedkiller and 'Reglone' potato-haulm destroyer are invaluable to Dutch growers and farmers. Plasticiser alcohols and other materials from HOC Division go into all kinds of plastics and paints, and polyurethane materials from Dye-stuffs Division into the insulation spaces of Rotterdam-built ships. ICI plastics such as 'Perspex'—soon to be made at the Rozenburg factory near Rotterdam—can be seen everywhere.

Rozenburg factory is one of the logical answers to the new situation on the

Continent, and represents the fulfilment of one of van der Hoeven's long-cherished dreams. Nevertheless, selling—rather than making—is still his real enthusiasm, and he sees Rozenburg as a bigger and better source of supply for his force of 30 specialist salesmen. Most of these men, all Dutch, combine some technical qualification with selling ability, and they are backed by their own technical service laboratories and those of the ICI Divisions—none of which is more than a couple of hours' plane journey away. The goods shipped from Britain are unloaded into the four warehouse floors of the Company's headquarters direct from cargo ships berthed in the middle of Rotterdam harbour, so that handling costs, harbour dues, transport costs and paper work are kept to a minimum.

Van der Hoeven is probably as unlike the man in the street's conception of a super salesman as it is possible to be. He is quiet and cultured, favouring books, music and gardening rather than more gregarious pleasures. You might take him for a lawyer and not be wide of the mark, for he read law before taking a job as secretary to the ICI trading company in Java. He had the steamship ticket in his pocket when a commercial crisis in Java intervened, and instead he found himself running the Dutch end of the company.

While one of his rules of life is not to take himself too seriously, van der Hoeven would readily concede that he takes the job seriously. He is at his desk most mornings by 8.30, having driven 40 miles from his home in South Holland. It is to this old family home and its well-tended garden that he means to retire in the not very distant future.

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# PEOPLE & EVENTS



The Duke of Edinburgh at Jealott's Hill Research Station (see first story)

## Royal visitor

The Duke of Edinburgh visited ICI establishments twice within a week during October. The first occasion was on the afternoon of the 14th, when he went to Billingham Factory. This was part of a modified tour of the Tees-side area made by the Duke alone following the cancellation of the Queen's intended visit. In a hustling, crowded, 50-minute tour of the Billingham site the Duke inspected the engineering school (where he accepted for the Queen a desk calendar and for himself a cocktail tray, a condiment set, a match holder and a cigar piercer, all made by the apprentices) and the new pressure steam reforming plant and had presented to him a large number of employees in a wide variety of jobs. Afterwards he

said he had been "tremendously impressed" by everything he had seen.

His second visit, on the following Thursday morning, was to Jealott's Hill Research Station in Berkshire and was a private one. As at Billingham, he arrived by helicopter and was met by the Chairman, **Mr. S. P. Chambers**. After being introduced to members of the Plant Protection Board he was shown round the laboratories, where he saw the work the Company is doing to produce new and safer insecticides and herbicides. He was particularly interested in the new products based on menazon, diquat and paraquat (see article on page 188), and in the amount of work on toxicology carried out before any new product can be marketed.

## New capital projects

As widely reported in the Press in October, expenditure of nearly £30,000,000 has been sanctioned by the ICI Board on six new capital projects in north-west and north-east England.

£12½ million will be spent on a further extension of the existing nylon polymer plants of Dyestuffs Division at Wilton and Billingham—this is additional to the £10 million extension announced earlier this year—while about £4 million will be spent by Heavy Organic Chemicals Division, also at Billingham, on a new plant to produce phenol. A co-product of the process will be acetone, mainly required for the manufacture of 'Perspex' sheet. The new plant is due for completion by the end of 1964.

In the north-west, at Castner-

Kellner Works, Runcorn, a number of new installations will be built by General Chemicals Division as part of a plan to integrate manufacture on Merseyside into a major complex. These will include a cracker to produce acetylene from naphtha at a capital cost of £7½ million, while some £3 million more will be spent upon a new vinyl chloride monomer plant, and an expanded chlorinated solvents complex operating new processes. The naphtha cracker and the chlorinated solvents plant will be the largest individual units in the world manufacturing these products. At the same time it is proposed to double the capacity of the chloromethanes plant producing methyl chloride, methylene chloride and chloroform at nearby Rocksavage Works.

In addition, at Burn Hall Works, Fleetwood, Dyestuffs Division is to build a £3 million extension to its tolylene diisocyanate plant, doubling capacity for this product, which is an essential raw material for manufacture of urethane foams used for insulation, upholstery and foamback fabrics. This plant is also scheduled for completion by the end of 1964. Taken together, it is confidently expected that these projects will have an immediate effect on the local employment situation.

## £67,800,000 expenditure

These new projects bring to a total of £67,800,000 the expenditure on new ICI projects in the UK sanctioned during the first nine months of the year. The comparable figure for the corresponding period of 1962 was £19,400,000.

Capital projects in this country already announced this year include, besides the £10 million extension to nylon polymer capacity already mentioned, a £2½ million plastic sacks project for the ICI subsidiary British Visqueen Ltd. at Stockton-on-Tees; a £1½ million extension to capacity for 'Procion' dyestuffs at Huddersfield Works; a £6 million venture in partnership with BP and Distillers to form a new company, Border Chemicals Ltd., to manufacture acrylonitrile at Grangemouth; nearly £11 million to finance another stage in the multi-million pound scheme for modernising and expanding ammonia production at Billingham, Heysham and Severnside; and about £10 million at Wilton on a new cracker to produce ethylene from naphtha and to extend capacity for polythene.

## Organization changes

Changes in the structure of the Board and higher management of the Company were announced last month and will be introduced progressively from 1st January 1964. They result from the proposals of a Board Organization Committee which took into account the studies of McKinsey and Co., the American management consultants, and of a number of ICI teams which have also been studying organization and management efficiency.

The Board's purpose is to ensure that the Company's organization is geared to work effectively in conditions of rapid technological change and of the growing diversity of ICI's own operations, and it has therefore been decided to delegate authority as far as the total ICI interest will allow.

In future Division chairmen (and

not Divisional Boards collectively) will be responsible to the Board for the successful and efficient operation of their Divisions. They will account to a committee of the Board called a Control Group. There will be three of these, and each will concern itself with three ICI Divisions. Each ICI Director who is a member of a Control Group will take a special interest in one Division without in any way being responsible for it.

ICI Directors, relieved as a result of many day-to-day management problems, will be able to devote more time to the overall direction of the Company's affairs. Existing functional directorships are to be retained and a new one—Company Organization and Services—added.

In addition, "field directorships" will be created to deal with the co-ordination of the Company's activities in fields where ICI's interests extend beyond the responsibilities of any one Division.

## New Division chairman

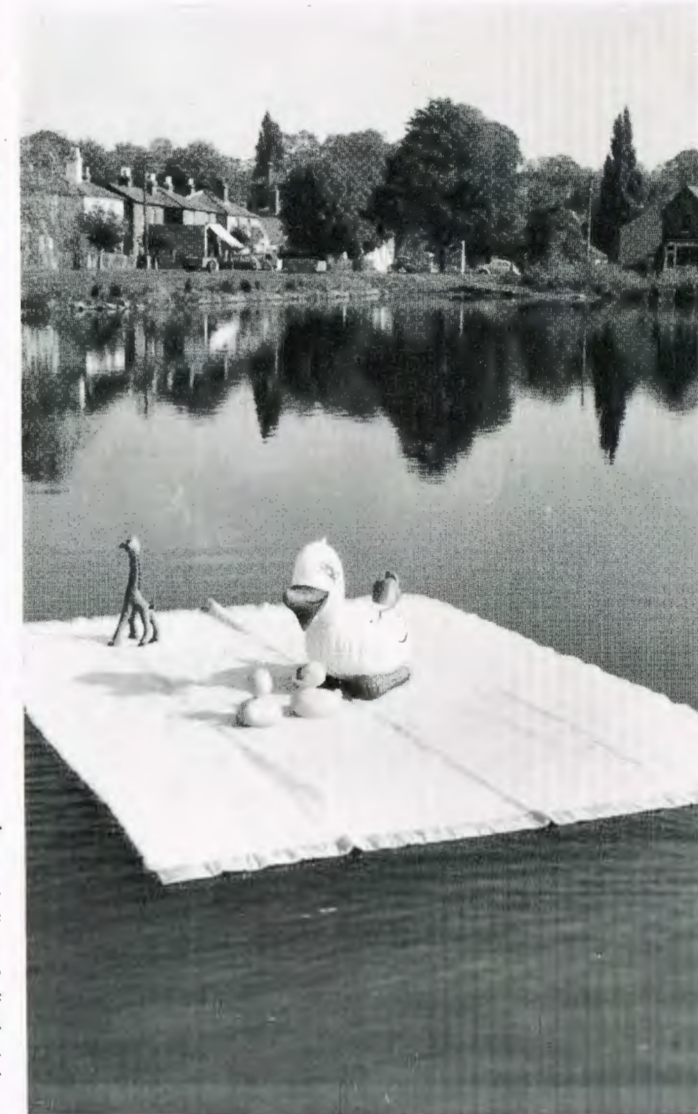
**Mr. T. B. Clark**, who succeeds **Dr. S. W. Saunders** as Chairman of Heavy Organic Chemicals Division on 1st January, is 52 and has been a joint managing director of the Division for the past 2½ years. Apart from war service, he has spent all his working life with the Company, which he joined in 1934 as a chemist in the Research Department at Billingham, after graduating from St. Andrews.



Mr. T. B. Clark

During the war he served as a brigade major in the Royal Artillery, being mentioned in despatches. Returning to ICI in 1945, he served for a period in the Development Department at Billingham, becoming the records and research manager of the Southern Region Sales Organisation in 1952. In 1954 he returned to Billingham as organic sales control manager and in 1958 became commercial director of the new Heavy Organic Chemicals Division.

In July 1960 he was appointed a member of the Scientific Advisory Council to the Ministry of Power.



## Blankets for winter blues

A new name for the household shopping list this winter is 'Ulstron.' It is a familiar one already to fishermen, who have been using 'Ulstron' for a couple of years or so in the form of ropes or fishing nets. But 'Ulstron,' ICI's new polypropylene fibre, has a chameleon-like quality. Just as it is tough for ropes and twines, so it can be light and luxurious to tempt the housewife. Blankets made of 'Ulstron'—the first of such temptations—are now on sale.

Because 'Ulstron' is so light, blankets made from it are warmer for their weight than any others. They are shrink-proof and can be hand washed or machine washed at home, commercially laundered, or dry-cleaned repeatedly.

'Ulstron' absorbs virtually no water (for proof see our picture above), and so blankets made from it dry extremely quickly and make airing worries a thing of the past. Colours are gay—aquamarine, rose pink, gold, sky blue and white.

An 'Ulstron' blanket dramatically demonstrates its non-absorbent properties.

At present six major suppliers are offering 'Ulstron' blankets in their ranges, prices running from about £2 15s. to 9 guineas for full sizes and from 15s. to £1 15s. for pram and cot blankets.

## The Mond Division

On 1st January the Alkali and General Chemicals Divisions will be combined to form the Mond Division of ICI. **Mr. Derrick Carter**, who has been chairman of both Divisions since Mr. Keith Batty's retirement from Alkali Division last August, will be the new Division's chairman, and he will be assisted by three deputy chairmen, the current managing directors of the two Divisions. They are **Mr. F. Steadman** (Alkali Division) and **Mr. J. C. Brown** and **Mr. J. L. Tedbury** (General Chemicals Division). The chairman and deputy chairmen will be located at Runcorn.



The new Division will be organised into five product groups, each of which will be controlled by one or more directors and will have its own Operations, Sales Control, Technical Service and Technical Departments. Activities such as Commercial Services, Research and Development, Finance, Personnel, etc., will continue to be organised on a Divisional basis.

#### Ready for another freeze-up

With the possibility of another severe winter ahead, local authorities are building up their stocks of rock salt to an all-time record level. Alkali Division's Salt Sales Control Department estimate that stocks now held by local authorities are of the order of 800,000 tons compared with about 400,000 tons at the same time last year.



Output at the rock salt mine has been increasing rapidly since the Minister of Transport, Mr. Ernest Marples, officially opened the new extensions in November 1960. At that time the production rate was 330,000 tons a year. By the end of 1962 it had jumped to 500,000 tons. Since then output has risen further, and by the end of the year will be approaching the rate of one million tons.

#### Central Staff Conference

The ICI Board announced at the end of October its decision to hold a Central Staff Conference in London next July. The Chairman of the Company will take the chair and other Main Board directors will also be present. The Board want to keep the meeting as informal as possible because they believe this will help towards a more useful exchange of views. The number of representatives will be around 100, drawn from Divisions, Regions and Head Office according to numerical strength. The method of selecting

representatives is to be left to individual Divisions and Regions.

#### Board appointment

Viscount Amory, who relinquished his appointment as High Commissioner for the UK in Canada on



Viscount Amory

10th October, was reappointed to the ICI Board last month and will act as a non-executive director.

Lord Amory was a director of the Company from December 1960 until September 1961, when he resigned to take up his appointment in Canada. As Mr. Derick Heathcoat-Amory he was Chancellor of the Exchequer from January 1958 to July 1960.

#### Wallpaper workshop

Within Paper Staining Co. ICI's wallpaper manufacturing subsidiary operated by Paints Division, recently opened a workshop for cutting wallpaper printing rollers in Kirkcaldy, Fifeshire. Behind this announcement is the story of one man's enterprise to save his own job and that of his workmates from redundancy.

He is **Mr. D. Pettigrew**, who now supervises the shop for Within. A short while ago he was foreman of the block cutting shop of a large linoleum manufacturer. Learning that his department was to be closed and that the firm was not able to redeploy him or his men at their own trade locally, he wrote to the chairman of Within pointing out the near identity of the techniques of lino block cutters and wallpaper roller cutters and asking if a shop could be established in Kirkcaldy.

Within's needs happened to coincide with the skills of his men, and in a very short space of time temporary premises were found and work got under way. The men's jobs have been saved and Within can now get from their own people in Scotland many rollers which formerly had to be obtained from Germany.



A cedarwood toad, a symbol of good omen, presented to the Chairman by ICI's 'Terylene' licensees in Japan (see Gift from Japan).

#### Gift from Japan

The magnificently carved cedarwood toad (photographed when on display in the main entrance hall of IC House) was presented to **Mr. S. P. Chambers**, ICI Chairman, in Japan last June, as a mark of esteem, by Mr. S. Tashiro, chairman of Toyo Rayon Ltd., and Mr. S. Ohya, president of Teijin Ltd. These two firms are jointly licensees for the manufacture of 'Terylene' polyester fibre, sold in Japan under the trade name of 'Tetoron.'

Toads have long been regarded in Japan as symbols of good omen. For merchants or innkeepers the toad was a sign of welcome. About a century ago in a small village called Samegai at the foot of Mount Ibuki, near Kyoto, a certain Hokusui Kawaguchi thought of carving a toad from a block cut from an aged cedar tree of beautiful grain. Carving toads of cedarwood became a speciality of Samegai, and in course of time made it famous throughout Japan.

The carved toad presented to Mr. Chambers is the work of Hokusui Kawaguchi the fifth. A carving of this size is a great rarity, the tree from which it was made being ten feet in circumference.

#### Link-up with BICC

A new company, British Kynoch Metals Ltd., has been formed by British Insulated Callender's Cables Ltd. (BICC) and ICI following the joint investigation carried out earlier this year of both companies' non-ferrous metal interests. The new company has an initial share capital of £250,000, held equally by BICC and Imperial Metal

Industries Ltd., a wholly owned subsidiary of ICI.

The chairman of the new company is **Mr. G. A. D. Smith** of Imperial Metal Industries (Kynoch) Ltd., the other directors being Mr. E. Bowyer and Mr. C. H. Broughton Pipkin of BICC and **Mr. J. R. Crane** and **Mr. P. F. A. Loffler** of IMI (Kynoch).

In a statement to the press, the initial tasks of the new company were defined as involving "the organisation of complementary research and development programmes." And it was stated: "Looking further ahead, BKM is intended to be the vehicle through which its parent companies can ensure, where desirable, further joint co-operation both in operation and in investment."

#### BAC One-Eleven disaster

The BAC One-Eleven aircraft which crashed on 22nd October carried crash-recording equipment loaded with photographic recording paper made by Ilford Ltd., an associate company of ICI.

The recorder, which was enclosed in a steel crash- and fire-resistant housing, was recovered intact with the paper apparently in good condition, although the instrument housing had been subjected to very intense heat.

Anticipating possible difficulties with the handling of the photographic paper, in view of the severe conditions to which it had been subjected, the Vickers flight test engineers contacted Ilford's Research Department. A team of scientists spent two days and nights assisting the Vickers engineers in the processing of the flight records.

The teams found that the Ilford recording paper had survived, but the intense heat had apparently destroyed all traces of the image. However, the Ilford scientists, in consultation with their colleagues in the Research Laboratories at Ilford and Mobberley, evolved a special processing technique and by 11.30 p.m. on 23rd October all processing work had been completed, and a full record of the flight up to the moment of the crash was available for examination and detailed analysis.

A still from a new film "Six Faces of 'Terylene'" which is being made for Fibres Division by the ICI Film Unit. Amusing "Edwardian" portraits are used to link sequences and to point the contrast between the rather cumbersome fashions of the period and the practical, easy-to-care-for clothes that 'Terylene' makes possible today.



The Rev. Victor Farmer, a pensioner of ICI (China), from which he retired as chairman in 1954, has joined the staff of St. James' Cathedral at Bury St. Edmunds, Suffolk, as an additional chaplain. He was ordained priest in 1962. He is seen here with his daughter, Gillian, and his son, Robin, who is with General Chemicals Division.

A General Chemicals Division team from Pilkington-Sullivan Works won the ICI Trophy for the ICI team giving the best performance in the London Finals of the Industrial Fire Protection Association's annual fire-fighting competition. They also tied with two other teams for second place in the extinguisher drill and shared with them two IFPA trophies. Here Mr. F. Jones, Works Fire Officer (second from the right) and two of the team are seen receiving the trophies from Mrs. J. K. H. Cunningham, wife of the Deputy Chief Officer of the London Fire Brigade.



This cart, drawn by four miniature horses, won a first prize when it was entered by Duperial Argentina at a recent agricultural show in Buenos Aires. On the day the show closed, Duperial Argentina received an invitation from the organising committee of the International Friesian Agricultural Fair of Leeuwarden, Holland, for the cart and midget horses to be shipped complete—all expenses paid—to Holland for exhibition at the fair which opened on 15th September. Standing beside the cart in the picture are, left to right, Sr. Julio Falabella, breeder of the midgets, and Mr. Donald Gregg and Mr. Eric Kember of Duperial Argentina.



## Retirements

### Dr. S. W. Saunders

Dr. S. W. Saunders, chairman of Heavy Organic Chemicals Division for the past six years, retires at the end of the year. Mr. C. M. Wright, ICI Personnel Director, writes:

It gives me much pleasure to pay a tribute to Sammy Saunders on his retirement after over 37 years' service in the Company.

He had a distinguished career at University College, London, with a 1st class honours degree in chemistry, followed by a Ramsay Fellowship and a Ramsay Gold Medal for his research work. Two years ago he was elected a Fellow of his College in recognition of the considerable contribution he had made to the development of the chemical industry in the country.



Dr. S. W. Saunders

He joined the Company at Billingham in 1926, and apart from three years as chairman of the Lime Division from 1950 to 1953, the whole of his career has been spent on Tees-side, the last six of which he has been chairman of Heavy Organic Chemicals Division.

Sammy—as he is affectionately known to his host of friends—has, from his earliest days in the Company, been a most informal “character”, with no time for status symbols or for standing on ceremony. Having worked under him for many years at Billingham I can so readily picture him in the chair at a meeting of works managers listening to strong arguments for some line of action, then blinking through his glasses and saying “So what?” This was always followed by the most grossly provocative comments to bring out all the counter-arguments, to ensure that in the end a balanced decision was reached. It was a most effective technique.

During his ten years as works general manager and production director he derived much pleasure from going round the Billingham factory in his oldest mackintosh and hat and chatting to employees in

the oddest spots. On one occasion during his rounds he called on Dr. Beards, the Division medical officer, but on entering the main door of the Medical Department he was pounced upon by a vigilant nurse who looked him up and down and told him the entrance was at the side door. Sammy obeyed instructions and duly joined those waiting for treatment.

He has been a great success as chairman of Heavy Organic Chemicals Division in building up a strong team in the new Division, with a full recognition of the many problems ahead in this developing petrochemical age. He himself has also played a major part in the smooth linking up of the Wilton Works organisation with that of his own Division. He can thus look back with pride on the considerable contribution he has made not only to the Company's progress on Tees-side but equally to the high standing of ICI in the whole district. Sammy's many friends throughout the Company will wish to join me in expressing our warmest good wishes to him and to his wife for a long and happy retirement.

### Mr. A. R. Smith

Mr. A. R. Smith, Head of Economics and Statistics Department, retired on 31st October after more than 34 years' service. A colleague writes:

While by reason of the diversity of the Company's interests represented, conversation in the Seniors Luncheon Room will probably remain as general after Alan Smith's departure, one doubts whether it will be as stimulating as his presence would always ensure. To say, therefore, that he will be sadly missed by his colleagues is no cliché but a veritable statement of fact.



Mr. A. R. Smith

Alan has always been a very formidable opponent in any argument, and the writer remembers in particular crossing swords with him in 1940 on the subject of

exchange control. So far as one remembers it ended after some months in an honourable draw, with each side certain he had demolished the other's arguments, since when it is true to say that relations have been of the happiest. One also remembers many occasions when his helpful advice has been so generously given.

Alan is one of the diminishing number of pre-1930 vintages of recruitment—with which the Company has, perhaps, a certain reluctance to part, since he reached normal retirement age some twelve months ago. He joined the Intelligence Department in 1929, was appointed its Head in 1941, and during the war period in particular worked on special commissions for the late Lord McGowan and Sir John Nicholson. Alan had also, from the outset of his career, very close working connections with Sir William Coates, a fellow economist, and in 1949/50 assisted in preparing ICI's defence in the ICI/DuPont Anti-Trust trial in the USA—anything but an easy experience, from which he emerged with credit. Outside, his numerous contacts grew to include the leading economists of the day.

His post-war activities have included special investigations in South America and very effective participation in studies of such controversial subjects as nationalisation, international cartels and monopoly and restrictive practices, to mention only a few. His fearless presentation of what he considered a just case has at times aroused feeling, but Alan has no enemies and a host of friends.

His interests are equally diverse out of business. Apart from cine-photography, he loves making things, and to the wonder of many of us can make things that work, from model aeroplanes to television and electronic equipment. His outdoor interests are tennis and golf. We need have no fear for his ability therefore to fill his time—argumentatively or otherwise!

Mr. Menzies presented him with gifts from his colleagues on 24th October, and all wish him and his wife a long and happy retirement.

## OBITUARY

### Mr. John Hay

It is announced with deep regret that Mr. John Hay, who at the time of his retirement in 1951 was the Company's Chief Labour Officer, died suddenly on 31st August. He was 76.

Mr. E. T. Grint, Head of Central Personnel Department, writes:

When I joined the Company in 1929 John Hay was already an institution, and he continued to be to those of us who worked with him until his retirement at the end of 1951, after 38 years' service with the Company.



The late Mr. John Hay speaking at Central Council

Along with Sir Richard Lloyd Roberts, with whom he worked for 20 years, he played a very important part both in laying the foundations and subsequently in the building up of what is now almost universally accepted as the ICI Labour Policy. For all of those years Sir Richard was the Chief Labour Officer and John the Deputy. If one had tried, it would have been very difficult to find two people who were so utterly different in temperament and personality but who combined so well. We can all, I suppose, admire qualities which we ourselves do not possess. This may well be the reason why Richard and John got on so well together, although I think all of us who knew and worked with John Hay would say that we found him a very easy person to work with. He had an equable temperament, a sincerity of purpose, an integrity that was unquestioned, and he was quite “unflappable.” With those qualities it is perhaps not surprising that he succeeded so well in the field of industrial relations.

From 1948 to 1951, when he was Chief Labour Officer, he conducted the Company's negotiations with skill and sincerity, and on his retirement the trade union officials with whom he dealt paid eloquent tribute to those qualities which we all knew him to possess and which endeared him to us.

## RETIREMENTS

Some recent announcements of retirements include:

**Head Office:** Mr. R. Farquharson, ICI Shipping Manager (retiring 31st December); Mr. A. R. Smith, Head of Economics and Statistics Department (retired 31st October). **Heavy Organic Chemicals Division:** Mr. J. Hughes, Director (retired 30th November); Dr. S. W. Saunders, chairman (retiring 31st December). **Nobel Division:** Mr. F. G. O'Hanlon, Chief Accountant (retiring 31st December). **Chance and Hunt Ltd.:** Mr. H. S. Dean, Manager of Chance and Hunt, London (retired 30th September).



The 'Viva' proved the big attraction when cars from Vauxhall Motors' 1964 range were on view recently at Paints Division's Stowmarket Factory. ICI's Acrylic Car Finish, manufactured at Stowmarket, is used on this and other Vauxhall models.



More than two tons of 'Terylene' have been used in the manufacture of the largest synthetic fibre nets ever made in Britain. Now installed beneath the road section of the Firth of Forth road bridge, the nets have a total area of 100,000 sq. ft. The roadway section is 180 ft. above the water and is being built out from either side of the two main towers. Four separate nets, slung on frames 35 ft. below the roadway, cover the areas where some 70 men are working and are moved as construction proceeds.



## 50 YEARS' SERVICE



Mr. W. Baguley  
(Alkali)  
30th October



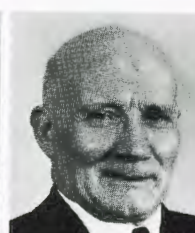
Mr. G. D. Cox  
(Alkali)  
15th October



Mr. W. Faulkner  
(Alkali)  
7th October



Mr. J. B. Shallcross  
(Alkali)  
1st November



Mr. E. Dodd  
(General Chemicals)  
3rd September



Mr. J. Norcott  
(General Chemicals)  
3rd October

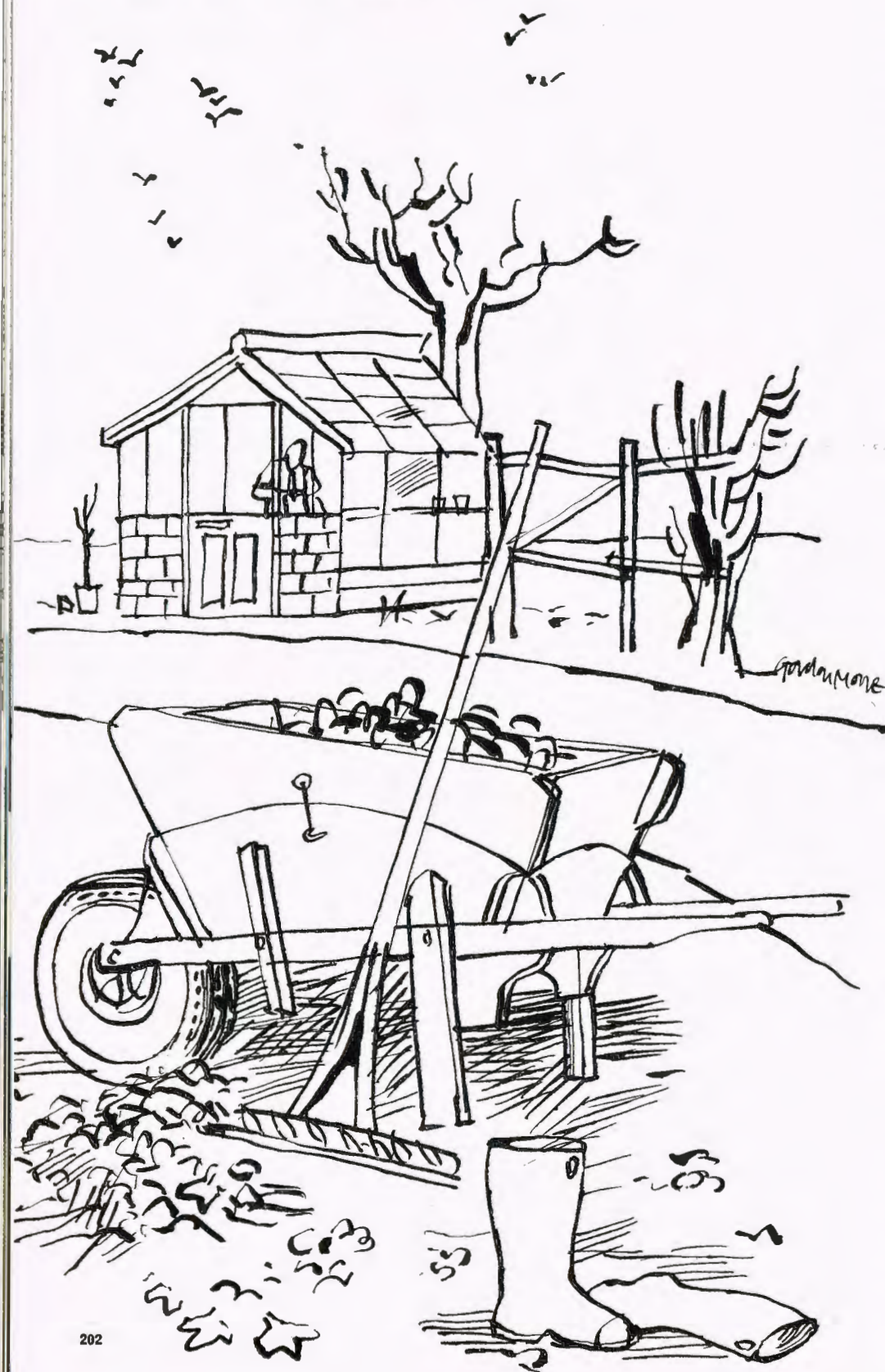


Mr. C. E. Smith  
(General Chemicals)  
22nd September



# GARDENERS' GUIDE

by Percy Thrower



The year that is almost at an end started off in a drastic way for gardeners in particular, with some of the severest weather any of us can remember. This left us with a long list of casualties in gardens everywhere, many of which still have to be made good. A late spring followed, and then a summer that left much to be desired in the way of sunshine. In my part of the country, Shropshire, it was a comparatively dry autumn—the soil was very dry right through October and into November—and early planting of trees and shrubs had to be followed by watering, a somewhat unusual event for the time of year. Overall it has been a good year for growth in the garden for almost everything that survived the severe weather. In my new garden I continued planting trees and shrubs into April, and roses as late as the second week in May. By keeping these watered during the few dry spells we had they have established themselves well.

I also planted trees and shrubs in June and July from metal containers, and these have never looked back. This method of growing for out of season planting is rapidly increasing and will, I am sure, increase even further. Those I purchased were no more costly than trees and shrubs lifted from the nursery in the traditional planting season. I can see a great future for container-grown trees, shrubs and roses. It enables planting to be done when both weather and soil conditions are much pleasanter for the gardener. It also means that shrubs, trees and roses can be bought when in leaf and flower, and this will be of particular value to the less experienced gardener to whom a mere name often conveys little.

The secret of success with container-grown bushes and trees is thorough watering before planting, again after planting, and for the first few weeks in the soil. Before planting I sprinkled 'Plus' fertilizer on the ground at the rate of two ounces to the square yard. The roses I planted in May I also fed with 'Plus' and, later in the summer, with 'Solufeed.' These were still a mass of flowers in early November. Grass seed sown in September was up in three weeks with constant watering and was mown twice in late October, and it is looking very well. This too was fed with 'Plus' (two ounces per square yard).

I have greatly enjoyed the past year in my new garden. The framework is now

completed and I look forward to extending the permanent planting even further in 1964. I have two greenhouses, and in these I have a mist-propagating unit. One greenhouse, the Mini-brite, is in two sections each 8 ft. x 8 ft., and the other, the Constable, is in red Canadian cedar and double glazed. I shall be interested to see the saving in fuel costs in the double-glazed one, which is 13 ft. x 8 ft. Both are heated by electricity.

Are we to expect another winter like the last? One sincerely hopes not, but with the experiences of last winter still fresh in mind the wise gardener will take all the precautions he can. Last winter in Shrewsbury my saddest loss was a *Eucryphia nymansay* eighteen or more feet high. I have two young ones in my new garden and have already packed straw and bracken round the base to ensure keeping at least the lower part alive. I have also done this round a *Eucalyptus gunnii*. Round tender rhododendrons, *Arbutus unedo*, *Tricuspidaria* and *Carpentaria californica* I am supporting polythene on strong stakes to keep off the biting east winds.

In country districts last winter hares and rabbits did severe damage to trees, shrubs and fruit trees by biting off the bark. As a precaution against this I am experimenting with black polythene wrapped round the stems of the trees to a height of three or four feet. I think it unlikely that they will bite through the polythene.

During the past few years science has done much to assist gardeners and to make our task an easier one. The greatest discovery over the past few years has been menazon, the safe systemic aphid killer. This has enabled us to keep roses and other plants free from greenfly for considerable periods at a time. In the case of broad beans I found it necessary to spray only once, when the beans were coming into flower, and this was sufficient to keep them free from black fly. This was also the case for runner and french beans. Can we look forward in 1964 to a fertilizer with menazon added, so that it can be taken up by the roots of the plants? This would mean we could feed our roses when we prune in March and know they would be immune from greenfly until late May or June, when it is time to feed again.

'New Verdone' has certainly proved its worth, and in the year that lies ahead we should see more weed and clover free



"... last winter hares and rabbits did severe damage to trees ..."

lawns. Perhaps we can hope too for a wonder weedkiller during this time.

To be sure of getting off to a good start in 1964 we must order our seeds and with them the 'Plus' fertilizer we shall need to keep the soil well stocked with essential plant foods. The two basic principles of

all good gardening are firstly to keep the soil well supplied with humus so as to keep it in good heart, applying the three essentials, potash, nitrogen and phosphate. Secondly, to make sure that when we do the right thing we do it at the right time.



# RETIREMENT

## - a summing up *by James McGill*

The problem of retirement, in the main, is one of organisation; having had the major part of your life organised for you (first the home, then school, then industry), you now have to do it for yourself, and that can be a big problem. I could not lay out a detailed programme and say to you "Follow that and you will be happy and content," but there are certain fundamental principles which can help to make your retirement a success.

Your first consideration will be finance: will your income be sufficient to satisfy reasonable requirements? The problem here is how to organise your requirements in order to bring them within the scope of your available income. If you are nearing retirement and in the pension scheme, you can obtain a statement from your Personnel Department of what your pension will be at the time of application. Add to this your state pension, and that will be your approximate income.

The next problem will be what you are going to do with the additional 45-50 hours of leisure (45-50 comprises actual working hours plus preparation and travel to and from work). Being a social creature, you cannot find happiness and contentment in isolation; on the contrary, isolation is loneliness, and loneliness is an affliction which brings unhappiness and can impair your health considerably. So it is obvious the degree of happiness that you get from retirement will depend on the contribution you make to the happiness of others, in other words "good relations."

Good industrial relations are very much in the news these days, because it is realised that such relations are essential to successful production and efficiency. "Good relations" is collective effort for each other's well-being, and everyone concerned in that effort expects a share in the rewards thereby created. It is equally true that in retirement those who have taken part in the collective effort for your well-being up to the time of retirement should receive a share of the rewards, in this case your leisure hours.

First there's the wife. She's earned some leisure too. Shouldn't one's retirement be as much hers as one's own? That doesn't mean you go round all day with an apron on doing all the household chores, but there are many things around the house that a man in retirement can do to ease the woman's load. For instance, he can do all the outside work associated with the home, such as cleaning the windows and paintwork and the paths. Inside he can help with the washing up, light the fire and do any job within his capacity. Shopping can be hard work when there are heavy parcels to carry, and here again there will be the time to help. Personally I'm glad to do these jobs, for the knowledge that I'm helping my wife's "retirement" gives her, I know, that much extra happiness.

You may like a certain amount of organised pleasure, and to meet this kind of demand there are a number of Darby & Joan clubs, pensioners' associations and social clubs in all areas; or you may

prefer some organisation which gives a service, and again there are plenty to choose from, such as friends of hospitals, spastics, backward children, etc. If interested, one can get information from the council offices, community centre or local council member; they are always willing to assist any interested person. Nearly every Denomination, too, has its society, and if you are a member of one there is another outlet for you. Music may be your strong point, and again there are plenty of outlets—choirs (male voice or mixed), choral societies, brass bands, orchestras. Do not think that you have to be an expert—there are always a number of jobs to do not actually associated with the playing.

I have mentioned the giving of happiness to others. Welfare work has always been one of my main interests. There are many who need thought and help and comfort. There are those who, through some disability or infirmity, are cut off from their fellow men. They live lonely, sometimes almost tragic lives, feeling more and more unwanted as the years go by. They can seldom get out—for them no trips to the seaside for a change of air and food, and few visitors, for many are not members of any organisation and are therefore not on the books for visits.

These are the forgotten people, lonely, needing help and companionship, but usually too proud to ask for it. In this field of operation I could spend my whole 45 hours of leisure. Since my retirement I have been made secretary of a charitable

organisation and just recently I was in the Post Office drawing my pension when a friend who happened to be there at the time, said, after enquiring about my health and being informed I was in good shape, "We are in desperate need of prison visitors, Jimmy. What about it?" I had the time, so I agreed to act in that capacity, and that means a bit more of my leisure gone.

Before leaving the welfare question I have a suggestion to make which I feel would not be out of place. Individuals like myself can never hope to deal adequately with this question of sickness and loneliness, and while I am aware of the interest shown by factories and works, their difficulty is to recruit the labour force to operate a welfare scheme. Isn't one answer to harness the wealth of mental and physical energy of many of our retired employees—a welfare scheme

run by retired employees for retired employees? What better way to spend part of the leisure of retirement than in helping your old colleagues and thereby continuing the Company's family spirit into retirement?

I would say that retirement would be barren leisure without some creative interest to provide a means of self-expression; but this, I must confess, is not my strong point. I have a garden but I am not an expert. I feel sure, however, the extra time I devote to its cultivation will be rewarding and make some contribution to beautifying the neighbourhood. I like tinkering with clocks, but they never seem to go right after I have finished with them, although I believe there are some good books in the library on "do-it-yourself" which may help me to overcome this weakness.

One hobby I possess—if it can be called a hobby—typing: I can spend hours at the typewriter. The typewriter I am using now is the one I got from the Company for my 35 years' service. It has improved my correspondence in so far as my letters are now readable, but it has also shown my weakness in English, so I have had to devote a little of my leisure to touching up my English.

How many of the 45 hours have I got left? None! But one thing I have got, namely the ideal working day which I always wanted during my latter years of shiftwork with the Company, i.e. start at 9 a.m. and finish at 4 p.m., and I would not have it otherwise.

**"The contribution you make to the happiness of others." The author on a visit to an elderly neighbour**





# THE PRODIGY

by Patricia Miles

My mother was lucky in me. I was a born climber. I never had any trouble hitching my wagon to a star—any star.

My mother herself had early taken a stranglehold on success, having as a young woman lifted herself from an inadequate small farm in the south of Ireland into a modern semi-detached house in a snug Lancashire mill-town. The electric light, the running water, the slowly acquired carpet in every room gave her conscious pleasure for years. We were very close, my mother and I, so when at the age of eight I had a sudden fancy to take up music she encouraged me, and set about finding an instrument straight away in case I should change my mind.

We already possessed a funereal black upright piano bequeathed us by my father's father, a tough old man who had sprung fully grown from the murk of Salford with a copy of "Self Help" in his hand, and had made money as a cotton engineer in Russia before the revolution. Somehow I never cared for that piano, although we had modernised it to the extent of removing the brass candleholders. The truth was, it was too familiar. In any case, I had recently happened to hear of the great virtuoso, Kreisler. Without any encouragement from nature, I identified myself with that noble, leonine man, and I got the violin, in the three-quarter size, for my eighth birthday. It was lucky that in those days I had never heard of the young Menuhin, or I should have been worried about the year or two I'd let slip. It was a great feature of my ambition, the hurry I was in to do my mother credit.

Lessons were fixed up with a teacher from our church, a large kindly short-

sighted man who lived in a big house at the top of our road and taught music as a sideline and for the love of it.

His house made a deep impression on me: the rest of the road was not half so grand. Down at the bottom we had elderly cottages facing the inevitable dreary mill wall, followed by red-brick terraces and our few blocks of semis. The top of the road brought you to the extreme edge of the town. Here the moor came down and bared its fangs at you, and the houses were regular mansions with shrubberies and verandas and black and white woodwork. With my aspiring temperament I was very susceptible to the splendours of "Scarisbrick" and "The Cedars" and "Loch Broom," and I got a bit muddled between my artistic and social pretensions. How pleasant to moon along after the lesson and picture myself in one of those drawing-rooms, astounding some classy gathering with my emotional rendition of a gem from "The World's Grand Opera," or whatever the current weekly piece. Then my mother, leaning over our gate, would catch sight of me and all unknowingly prick the bubble: "What are you coming along the road scowling like that for?"—and we would go inside for a different sort of performance, raucous but real.

In some ways I couldn't help feeling my mother was taking the whole thing too seriously. My teacher had a funny story about a rough little lad called Jacky Jump, a good performer considering his casual approach, pretty annoying for dedicated artists like us. His father caught him practising with "The Beano" propped up on the music stand. God help me if I tried such tricks. Over the months my

violin became stained with tears, partly on account of the knocks I got for playing wrong notes, but just as often because I was moved by the music. It was mostly pretty moving stuff we went in for, Highland laments and sad Irish songs. When Isaac Babel entered the child prodigy stakes he tells us iron filings dripped from his violin: my playing had an altogether soapier quality. Smoothness and a piercing sweetness were what I aimed at.

"Transpose it. Up high, up high!" urged my mother, accompanying me, self-taught from Smallwood's Piano Tutor. Up soared the notes, down poured the tears: feeling, that was my strong point.

We began a little mild showing off at family gatherings and neighbourly sing-songs. My mother had a keen sense of the world's hostility to emerging talent: she liked to keep her plans well hidden, and veiled a fierce sense of purpose behind a smooth, joking manner. At the first word of praise from some compassionate spectator—"Ay, love, you're as good as Vic Oliver"—though inwardly glowing, she would abruptly stop showing her hand.

"It's a nice little accomplishment, but you have to be exceptional to make your living at it," so she passed it off. But I began suffering delusions of grandeur. Unknown to my mother, I employed a schoolfriend to wash up the tea-things—my job around the house—for twopence a week to save my hands. Had I known of insuring them I might well have pressed for a policy to be taken out.

This went on for a couple of years. My father never knew the half of it, but he put up good-naturedly with the screechings from the front room, mine and the



drawing by SHIRLEY THOMPSON

violin's. Only once did he take a hand in my musical education, but that fatally. One evening he read out from the local paper an advertisement of a concert to be given by artists from London in a nearby hall.

"From London!" said my mother. It was a place she had the greatest respect for. The next day my father brought us home two tickets.

The church hall, which we approached by mean streets, was not in itself prepossessing. A row of damp irises bloomed against its dingy brick, like aspiration showing its head in unlikely places. It was a mild spring day and there were more people than we expected inside. We found seats, and my mother looked round with approval at the other members of the audience. No one looked back. Then three men and a woman came out on to the narrow stage and with few preliminaries began to play.

The performance was surgical. In a few brilliant bars they exposed the mad overweeningness of my daydreaming:

this was the real thing. We sat on the edge of the cane seats gaping at their fingering, numbed by their virtuosity. It was like struggling up a mountain only to find unsuspected ranges towering ahead. Like Columbus, we had set out thinking land a good deal nearer. A wave of unease reached me from my mother: I felt as if somehow I had misled her.

We scarcely heard the music, but at the end we clapped as magnanimously as we could, and then came home through those depressing streets.

"Bit of an eye-opener, wasn't it?" said my mother. I had not mistaken her reaction.

"Their presentation lacked glamour," she declared critically. But she knew, and I knew, such playing had little need of glamorisation. We turned into the bottom of our road by the dreary mill wall and lapsed into a brooding silence. I fell behind, dragging my feet.

"Oh, come on," said my mother, suddenly exasperated, "you're always in a dream."

I did not stop my lessons immediately: the great musical career petered out slowly. The war came, and the blackout, and there were other difficulties. I was in the scholarship class at school, and my mother was using the evenings to coach me. It was a much more practicable dream: anyway, I was getting too old to be a prodigy.

Between us we got a free place at the convent. I couldn't get into the distinctive navy and gold uniform quick enough, and when September came I immediately took to my new school. Quite a lot of non-Catholics sent their girls just for the refined tone of the place: it suited me very well. And that was not all. Every morning on the way to prayers we passed the "roll of honour" listing B.A.s and M.A.s in gilt letters, and leaving space for plenty more. I was caught up in a new dream, which I had not the sense to keep to myself. At the end of the first week I went home and proclaimed myself a "career woman." Some kids never learn.



# Something for nothing

by James Taylor

Something for nothing! The human instinct to get something for nothing is deeply ingrained. Have you ever steamed an unfranked stamp off an envelope or sat in a deckchair in Hyde Park without paying sixpence, hastily getting up at the approach of the park keeper and slinking silently away? Have you ever got free tickets for Sunday Night at the Palladium? I have.

The instinct varies according to the social level. At one end of the scale hooligans take light bulbs and straps from British Railway carriages; at the other end, the dowager patronises a particular luxury hotel because it supplies newspapers free of charge, and now and again she appropriates a piece of soap from the hotel bathroom. Even the poor millionaires of Mayfair are not above cutting in on time-unexpired parking meters, making the warden's life a little harder still.

Every year, indeed twice a year in most cases, big stores, with psychological cunning, cash in on this human failing. Neither my wife nor I can ever resist a bargain at a sale, even if we have no conceivable use for it; we are the natural fodder of auctions, church bazaars and fêtes. My wife's instincts are also sharply developed in the art of competitions promoted by manufacturers of tooth-pastes, washing powders and groceries. Every morning we use a Tea Master won in this fashion, and her loot includes two teasetts and several teapots. So far she has not won a car, but hope springs eternal in her human breast.

The instinct is robust in individuals, but it also manifests itself in groups. Have you ever observed how bus parties have brought to a fine art the multiple use of the id. loo? One of the most thriving of British industries is the replacement of cutlery lifted from restaurants and hotels. Hotels count their cutlery at the approach of coach groups.

If the exigencies of life take you out early in the central area of large cities,

you will observe the city beachcombers searching through the dustbins, and you can philosophise on the fact that the bears of the Canadian National Park in the Rockies are doing exactly the same in Jasper City.

In women the instinct burgeons strongly—my mother-in-law rolls up pieces of string and keeps them in a string bag inconveniently hung on a door knob. My sister goes on cruises to collect cocktail sticks, revolving pencils and books of matches. My secretary is partial to aeroplanes because she can bring home small bottles of liqueurs, perfume, minute tubes of mustard, and those little cylinders with salt at one end and pepper at the other which are so useful for picnics. I'm told that even superior females prize the free cosmetics in the rest rooms, but I wouldn't know.

Something for nothing is not confined to the West; indeed, its most sophisticated manifestations are of Eastern origin. My Chinese girl friend received gifts of money—coins wrapped up in red paper called lucky money, a very pretty Oriental custom—on her wedding day. After what's been happening recently, however, I would advise you Occidental girls to make sure any coins you get are indeed wrapped in red paper in order to avoid any misunderstanding.

The male conforms to this instinctive pattern as does the female of the species. My son is a doctor, and, as is well known free samples arrive constantly in the medico's post. I cannot possibly have all the ailments they are claimed to alleviate or cure, but I'm quite unable to resist trying them out—free gratis.

The rich are no more immune than the poor. Financiers seldom fail to take up scrip issues of limited companies or the chance of "stagging" a capital gain, and the *Daily Mail* "Roll Up" has a big following. Above all, for millions of males—and a lot of females as well—is the glittering something for nothing, or next to nothing, of the Pools.

or you can take it with you



"The male conforms to this instinctive pattern as does the female . . ."



# Billingham workshops face

This is the story of how Billingham Division's Engineering Workshops—the largest workshops in ICI—have met the challenge presented by the recent revolution in the Division's methods of making ammonia. Faced with surplus maintenance capacity as production patterns based on smaller and more compact manufacturing units foreshadowed a drastic cutting down both in men and machines, they have become in effect an engineering business on their own, undertaking work on new projects not only for other Divisions of ICI but also competing for orders from outside customers.

The Workshops' history goes back to the early days of Billingham. They began as a maintenance unit for the new plants being built in the 1920s. But very soon their role became extended as Billingham pioneered high-pressure techniques in this country. High-pressure know-how was not at this time available from outside, and "If we want this done, we must do it ourselves" was often the only course in those early days.

So the Workshops were required to make as well as mend. As the factory grew, so also did the Engineering Works and with it the Workshops. For more than thirty years this pattern showed little change—Billingham's huge plants, built to last for many years, requiring quite a corps of maintenance personnel.

But at last the need for huge plants occupying a great deal of space has come to an end.

The new plants are much larger in output for a given amount of equipment installed, and they need much less maintenance. For example, the Pressure Steam Reforming Plant which occupies about 5 acres produces as much as the old plant which was spread over some 50 acres.

Here then was the problem facing the Workshops. More than a thousand men, staff and payroll, a considerable amount of capital tied up in buildings and machines, an immense store of craftsmanship and know-how built up among the men on the shop floor over many years—and no longer enough work of the kind to

which they had been used to keep men and machines fully occupied.

To dismiss a large number of the men and scrap some of the machines would have been one solution, but this the Division rejected. Far better, it was decided, to continue to employ both the men and the machines if profitable work could be found for them. To provide that work the Workshops have become in part an engineering business, competitive in



A pipe being heated prior to hot bending in the Plumbers' Shop

the open market. Billingham's Workshops are singularly well equipped for the purpose. Probably indeed only the shipyards are capable of doing expertly under one roof such a wide variety of engineering work.

The Workshops look upon themselves as a kind of engineering commonwealth, embracing turners, machinists, blacksmiths, electricians, instrument artificers, fitters, platers, sheet-iron workers, plumbers, patternmakers, foundrymen, metal sprayers, and many more. Visitors from outside the Company frequently are amazed at the comprehensiveness of the shops, for example, not expecting to find an instrument shop, responsible for the repair of many thousands of instruments,

all set to make them as well; or an electrical shop for the repair of the factory's 10,000 electric motors and equipped to rebuild them completely if necessary.

Visitors may be equally surprised to find a metal spraying shop which not only prolongs the life of a great deal of the steelwork in the factory but can reclaim worn equipment with the very latest arc-spraying techniques; an X-ray laboratory where radiographers are using radioactive

materials for examining welds; and equipment for balancing machinery, both in the shops and on the site, to limits usually only possible by well-known specialist firms.

The engineering market is an extremely competitive affair, and the smallest differences in price or quality or delivery time can lose an order or spoil the chances of another. The Workshops, their primary role still an immediate repair service for the Billingham Site, did not think they could compete for repetitive mass production work, but they did feel confident they could compete for quality jobs. Nor is it easy for a newcomer to break into such a market. Billingham have tackled the job with skill and energy, both

# the challenge of change

by advertising their facilities in the technical and trade journals and the careful building up of personal contacts.

How did all this go down with the men on the shop floor? Good communication was essential. Everyone must know that a revolution was taking place. Everyone must accept that it was not good enough just keeping abreast of others and that if Billingham could not do its own maintenance better and cheaper than it could

be done by outsiders there was no likelihood of the Workshops being invited to do work for others. Throughout, the shop stewards, works councillors and all levels of supervisors were kept informed. All were well aware how much their livelihood depended on how they met the challenge—throughout there has been excellent co-operation right down the line. Although payroll strength has inevitably fallen slightly, this has been effected by

normal wastage and by a few early retirements.

In winning orders for high-quality engineering, the Workshops have reaped the harvest of their past. They have been given profitable business by a long list of firms, many of them big names in the engineering world. Orders have included overseas contracts, such as ammonia converter cartridges for Australia, India and Norway, equipment for a polythene plant



A fan shaft is reclaimed by spray welding in the Metal Spraying Shop at Billingham. This workshop not only prolongs the life

of a great deal of the steelwork in the factory, but rebuilds worn equipment by the very latest techniques

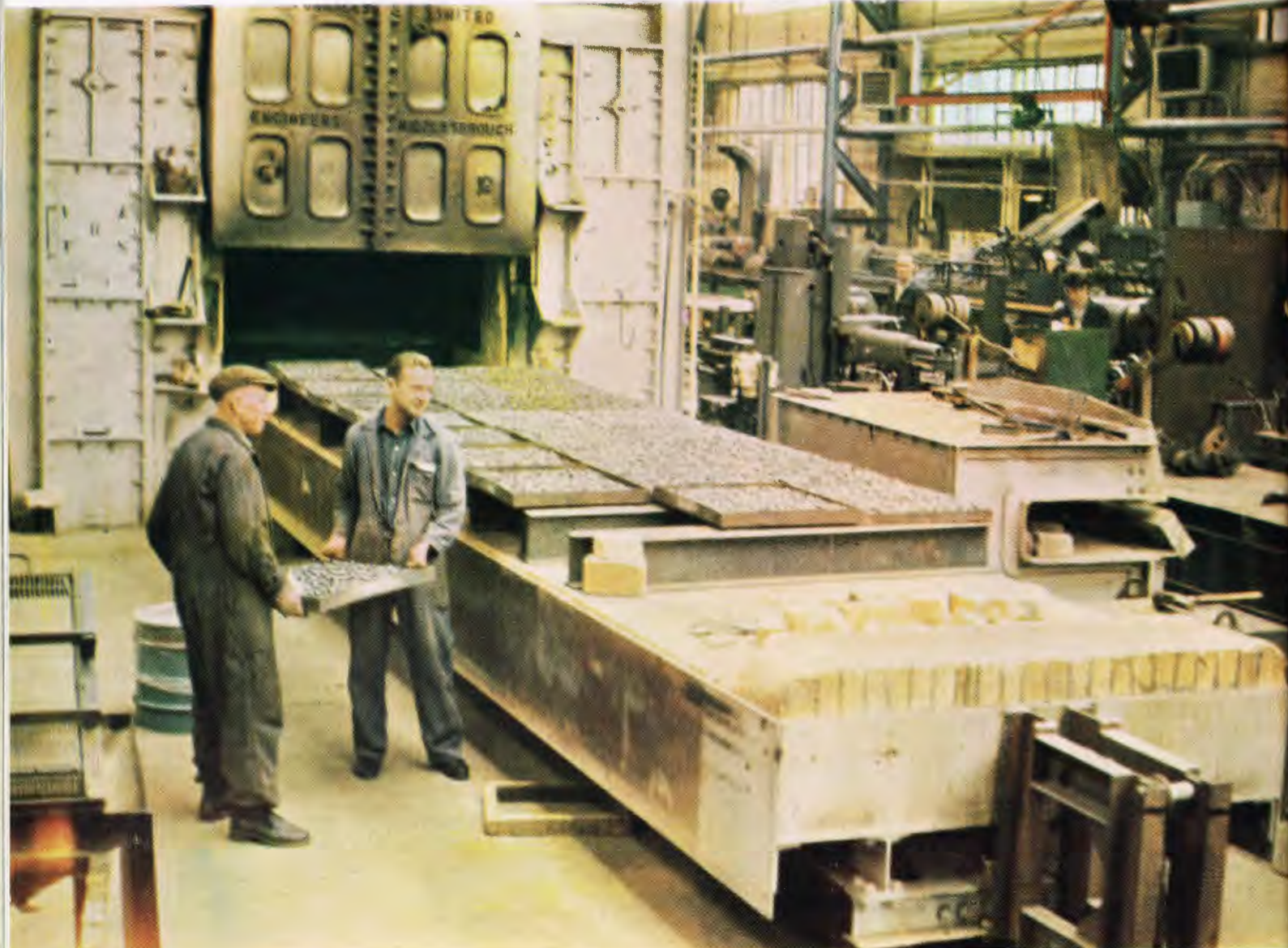




Work on a heat exchanger for a new plant

The very last charge of catalyst about to be pushed into the old gas-fired furnace in the Workshops. Future heat

treatments will be carried out in a new electric furnace which is the only one of its size and type on Tees-side



for Chile, work for the Atomic Energy Authority and the Admiralty—and experimental titanium springs for Jack Brabham's racing car.

This then is the new age into which the Workshops has moved. And not the Billingham Workshops alone. At Wilton a few miles away south of the Tees there is an equally well equipped workshops unit. Although not faced with the pressing problems of Billingham, the Wilton Workshops are also offering their skills on the open market with a view to keeping men and machines fully occupied during periods when there is little maintenance to be done, thus reducing their overall costs.

Throughout ICI there can be pride and comfort in the thought of a challenge successfully met which has safeguarded the jobs of some 1000 men in an area of Britain currently under the cloud of under-employment.



# ‘Corvic’ on record

by Tony Capon

In the world of “tweeters” and “woofers,” mono and stereo, today’s record enthusiasts want the best. Be it Sutherland or Segovia, the Beatles or Joe Brown, they will settle for little short of the highest hi-fi.

The record makers know this. In their competitive world which gets more competitive all the time the search for better recording techniques and better materials goes on. The suppliers who can provide

these materials must work to exact specifications. Among them is Plastics Division.

At Hillhouse, near Fleetwood in Lancashire, in modern plants with contamination levels at a minimum and quality control at a maximum, is produced ‘Corvic,’ a white powder PVC copolymer which, because of its particular qualities, has been chosen by Electrical and Musical Industries Ltd. of Hayes, Middle-

sex, to make many of the millions of records—LP, EP and standard—which they produce each year. The ‘Corvic’ formulation used by EMI has been specially developed in co-operation with Plastics Division to meet the flow requirements of record moulding presses and enables a tremendous degree of detail to be reproduced in the moulding. It gives the record rigidity, abrasion resistance and a toughness with which to combat the





'Corvic' from Hillhouse is delivered to the Hayes factory of EMI

Records are brought by overhead conveyor to the inspection department, where they are packed for despatch to record shops all over the world



The most up-to-date playing equipment is used by these girls in the testing department, who take samples from each batch of records and listen for the slightest defect



pressures exerted by the hard stylus point.

At their Hayes factory EMI make records under the labels of HMV, Columbia, Parlophone, Angel, Verve, MGM, Encore, Stateside, Liberty, United Artists, Concert Classics, Capitol and Mercury, but the first step is taken in their studios, where the number that might sell a million records is got down on magnetic tape. An edited version is prepared and transferred to the original "lacquer"—a disc of nitrocellulose—which will be used at the factory to make the "stamper" (dies of both sides of the record for the moulding presses).

The original is first coated with a layer

In the pressroom, the "biscuit" of 'Corvic' mix is placed between the top and bottom dies of a press a moment before it is made into a record

of pure silver, sprayed on in solution. There follows a layer of nickel and a final coat of copper. This build-up of silver, nickel and copper is peeled away from the original to form a negative. From this a positive is made and played to check for faults. If it is passed, a number of other negatives are made and go to the presses as "stamper."

Elsewhere in the factory quantities of 'Corvic' have been roughmixed with carbon black for colour and dibasic lead

stearate, which gives stability. In measured amounts this goes to be heat-mixed. After a second mix it passes through the calender which compresses it to a sheet of given thickness and through cutters which chop off "biscuits" of varying sizes for 7 in., 10 in. or 12 in. records. These are tested to ensure that they contain no metal which could ruin one of the dies. They are then packed for export or routed to the presses. In the pressroom, each operator has his supply of "biscuits" and labels. A label is placed in the centre of the top and bottom dies. The PVC is warmed in a small oven, rolled up, and put in the centre of the press. With the touch of a button the press closes and another record is ready for testing.

Testing is done by sampling from batches of records. In a long row of sound-proofed cubicles girls listen to record after record on some of the most up-to-date playing equipment, and the slightest defect is reported and checked.

The records are then passed to the Inspection Department, where they are mated with their attractive, well-designed sleeves and packed in boxes in which they will eventually find their way to the shelves of record shops all over the world.

Near the production departments at Hayes there is the library, where used "stamper" are stored and where original master copies line hundreds of feet of shelf space. In the catalogue section notes of every record issued or reissued by the company are kept with information on which countries they have gone to and whether or not they have been remade. Nearby, too, are the laboratories, where new batches of 'Corvic' undergo routine tests and where investigation into possible new materials and techniques goes on.

The factory at Hayes is a busy place, representative of an industry which, over the past decade, has grown out of recognition to meet an apparently insatiable demand for music, drama, poetry and comedy the world over.

In 1954 gramophone record production in this country was at a level of 50,879,000 a year. In 1962 it reached an annual figure of 77,544,000.

In 1956 78 r.p.m. discs held a 70% share of the market. In 1960 this had dropped to 1%, with LPs and EP's taking over. The total value of record sales last year was £17.4 million and is expected to be some 10% up on that this year. That is another record!



**QUAYSIDE**, by G. B. Hargreaves (*Billingham Division*)

